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R008 Western Banded Gecko Coleonyx variegatus
Family: Eublepharidae Order: Squamata Class: Reptilia

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## DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The banded gecko exists in two forms in California. The desert banded gecko (C. v. variegatus) is common to uncommon in the desert from northern Inyo Co. south to Mexico. It is found from below sea level to 1750 m (5750 ft) (Macey and Papenfuss 1991) in all desert habitats up to pinyon-juniper or mixed chaparral, but is most abundant in sandy flats and desert washes (Klauber 1945). The San Diego banded gecko (C. v. abbotti) occurs in coastal and cismontane southern California from interior Ventura Co. south, although it is absent from the extreme outer coast. It is uncommon in coastal scrub and chaparral, most often occurring in granite or rocky outcrops in these habitats (Klauber 1945, Stebbins 1972).

## SPECIFIC HABITAT REQUIREMENTS

Feeding: Banded geckos are opportunistic foragers on insects and other arthropods including beetles, termites, spiders, grasshoppers, sowbugs, and insect larvae (Klauber 1945, Parker and Pianka 1974).

Cover: During the day, geckos stay under rocks, rock caps, boards, fallen yucca stems, cow dung and other litter, or may seek refuge in mammal burrows (Klauber 1945, Miller and Stebbins 1964). Banded geckos hibernate in burrows (Parker 1972).

Reproduction: Eggs are probably buried in ground or under rocks (Mayhew 1968).

Water: Water is obtained from food (Miller and Stebbins 1964).

Pattern: The desert banded gecko occurs in a wide variety of habitats, however the San Diego banded gecko prefers rocky or granite outcrops.

## SPECIES LIFE HISTORY

Activity Patterns: Nocturnal. The peak activity period is two hours after sunset (Klauber 1945, Miller and Stebbins 1964), however, banded geckos may come out in the late afternoon to absorb heat (Brattstrom 1952). They are active April through October with a peak in May. Juveniles may be intermittantly active November through March (Klauber 1945, Parker 1972).

Seasonal Movements/Migration: No data.

Home Range: Parker (1972) estimated densities of 12-25 geckos/ha (5-10 acre) in Arizona. By driving roads at night, Klauber (1945) found 19.4 per 160 km (100 mi) in the Borrego area in San Diego County. On the best trips he encountered one gecko on the road every 3.2 km (2 mi), or 24 specimens in 78.4 km (49 mi).

Territory: Aggressive interactions between males in the laboratory suggest the possibility of territoriality in the field, or may be a means of sex recognition in a species that is not sexually dimorphic. During the day geckos tended to aggregate in shelters in the laboratory (Greenberg 1943).

Reproduction: Mating occurs from April to May, eggs are laid from May through September, and hatchlings appear July through November (Stebbins 1954, Fitch 1970, Parker 1972, Miller and Stebbins 1964). Males emerge in April and attain peak testes size in May followed by testicular regression (Parker 1972). The highest frequency of gravid females was in May and June (Parker 1972). Clutch size is two eggs, one per ovary or oviduct. Eggs are sometimes laid one at a time on different days (Parker 1972). Females store sperm and can produce multiple fertile clutches per season (Mayhew 1968, Parker 1972). Two to three clutches per season are produced. Estimates of incubation time are 30 to 45 days. Males and females reach maturity within one year at 52 mm (2.08 in) and 56 mm (2.24 in), respectively (Fitch 1970, Parker 1972).

Niche: Predators include leaf-nosed snakes, western patch-nosed snakes, night snakes, sidewinders, western diamondback rattlesnakes, coachwhips, and zebra-tailed lizards (Klauber 1945, Funk 1965, Parker 1972). Other possible predators are tarantulas, large centipedes, solpugids, other rattlesnake species, coyotes and foxes (Parker 1972). Tail autotomy is believed to be an important defense mechanism from enemies (Parker 1972, Parker and Pianka 1974). The tail is raised and undulated at the approach of a predator (Johnson and Brodie 1974). The banded gecko can have considerable dietary overlap with sympatric diurnal lizards (e.g., whiptails). Therefore, time of activity may be of limited importance in reducing dietary overlap and competition (Huey and Pianka 1983).

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